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EXAMINER

SHERKAT, AREZOO

ART UNIT

PAPER NUMBER

2131

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,229

Applicant(s)

MELAMPY ET AL.

Examiner

Arezoo Sherkat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-14, 17-26, 29-37 and 40-44 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 15, 16, 27, 28, 38, and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

This office action is responsive to Applicant's amendment received on May 13th, 2005. Claims 1-44 are pending.

Response to Arguments

Applicant's arguments filed on May 13th, 2005 have been fully considered but they are not persuasive.

Applicant argues that Hosford does not disclose, "pseudo-randomly shuffling said sequence number of said first multi-media data flow packet; and transmitting said pseudo-randomly shuffled sequence number to a second endpoint" and "unshuffling a pseudo-randomly shuffled sequence number received from said first endpoint, via use of an algorithmic key". Examiner responds that Hosford discloses, "Frames of data are encrypted by combining each of the frames with a mask that varies from frame to frame. The mask is obtained by using a frame counter as the seed for a pseudo random number generator, generating n pseudo random numbers, where n is the number of bytes to be encrypted in each frame, and concatenating the most significant bytes of each of the n pseudo random numbers to form the mask. The encrypted frames are transmitted, received and decrypted by combining them with the mask, which is independently generated at the receiver" (i.e., the combination of each frame and its unique mask is transmitted to the receiver)(Abstract).

Examiner respectfully maintains the rejection formulated on March 14th, 2005 as follows:

Claim Objections

Claim 24 is objected to because of the following informalities: claim 24 is a duplicate of claim 23. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 9-14, 17, 19-23, 25-26, 29, 31-37, 40, and 42-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosford et al., (U.S. Patent No. 5,966,450 and Hosford hereinafter).

Regarding claims 1 and 12, Hosford discloses a method for providing encryption for the rerouting of multi-media data flow packets (i.e., it is interpreted that a receiving station may also work as a sending station using the variable mask method of encryption generated independently at communications stations), comprising the steps of:

assigning a sequence number to a first multi-media data flow packet received by a first endpoint, wherein said first multi-media data flow packet is within a series of multi-media data flow packets, pseudo-randomly shuffling said sequence number of

said first multi-media data flow packet, and transmitting said pseudo-randomly shuffled sequence number to a second endpoint (Col. 1, lines 60-67 and Col. 2, lines 1-35).

Regarding claim 22, Hosford discloses a system for providing encryption for the rerouting of multi-media data flow packets (i.e., it is interpreted that a receiving station may also work as a sending station using the variable mask method of encryption generated independently at communications stations), comprising:

a first endpoint (i.e., transmitting station), connected to a second endpoint (i.e., receiving station), wherein said first endpoint comprises (Col. 4, lines 15-22):

a transceiver, software stored within said first endpoint defining functions to be performed by said first endpoint, and a processor configured by said software to perform the steps of, assigning a sequence number to a first multi-media data flow packet received by a first endpoint, wherein said first multi-media data flow packet is within a series of multi-media data flow packets, pseudo-randomly shuffling said sequence number of said first multi-media data flow packet, and transmitting said pseudo-randomly shuffled sequence number to a second endpoint (Col. 4, lines 12-67 and Col. 5, lines 1-67 and Col. 6, lines 1-37).

Regarding claim 34, Hosford discloses a system for providing encryption for the routing of multi-media data flow packets, comprising:

a first endpoint (i.e., transmitting station) connected to a second endpoint (i.e., receiving station), wherein said second endpoint comprises (Col. 4, lines 15-22):

a transceiver, software stored within said second endpoint defining functions to be performed by said second endpoint, and a processor configured by said software to perform the steps of: unshuffling a pseudo-randomly shuffled sequence number received from said first endpoint, via use of an algorithmic key (i.e., Hosford calls this randomization key a SEED), and deriving a first data flow packet from said unshuffled sequence number, wherein said first data flow packet is within a series of data flow packets (i.e., Decryption is performed by combining the received speech frame and the variable voice privacy mask, again typically by XOR-ing the received frame and the variable voice privacy mask, to recover the original speech frame)(Col. 4, lines 12-67 and Col. 5, lines 1-67 and Col. 6, lines 1-37).

Regarding claim 35, Hosford discloses a system for providing encryption for the routing of data flow packets, comprising:

a first endpoint (i.e., transmitting station) connected to a second endpoint (i.e., receiving station), wherein said first endpoint comprises: a transceiver, and a controller programmed to perform the steps of (Col. 4, lines 12-22):

assigning a sequence number to a first multi-media data flow packet received by a first endpoint, wherein said first multi-media data flow packet is within a series of multi-media data flow packets, pseudo-randomly shuffling said sequence number of said first data flow packet (i.e., combining the variable mask with the frame of data using an exclusive OR operation), and transmitting said pseudo-randomly shuffled sequence number to a second endpoint (Col. 1, lines 60-67 and Col. 2, lines 1-35).

Regarding claims 2, 13, 23 and 36, Hosford discloses wherein said multi-media data flow packets are real-time multi-media data flow packets (i.e., a sequence of digitalized speech frames)(Col. 1, lines 14-24).

Regarding claims 3, 14, and 25, Hosford discloses wherein said pseudo-random shuffling is performed via use of randomization code (i.e., Hosford calls this randomization key a SEED) that is algorithmically predictable if a key to said randomization code is known (Col. 4, lines 12-67 and Col. 5, lines 1-67 and Col. 6, lines 1-37).

Regarding claims 4, 26, and 37, Hosford discloses wherein said series of multi-media data flow packets, including said first multi-media data flow packet, are assigned sequence numbers that are each pseudo-randomly shuffled prior to said transmitting step (i.e., combining the variable mask with the frame of data using an exclusive OR operation)(Col. 1, lines 60-67 and Col. 2, lines 1-35).

Regarding claims 7, 17, 29, and 40, Hosford discloses further comprising the step of re-sequencing said series of multi-media data flow packets so that said re-sequenced multi-media data flow packets are transmitted from said first endpoint to said second endpoint in a random order (i.e., it is interpreted that a receiving station may also work as a sending station using the variable mask method of encryption generated

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independently at communications stations)(Col. 4, lines 12-67 and Col. 5, lines 1-67 and Col. 6, lines 1-37).

Regarding claims 9, 19, 31, and 42, Hosford discloses further comprising the step of performing bit manipulation within said first multi-media data flow packet (i.e., combining the variable mask with the frame of data using an exclusive OR operation)(Col. 4, lines 12-67 and Col. 5, lines 1-16).

Regarding claims 10, 20, 32, and 43, Hosford discloses wherein said step of performing bit manipulation is performed by using a bit-size operation that is restorable (i.e., the most significant byte of SEED is concatenated with the existing bytes of RVPM to generate an intermediate RVPM. At the first iteration, the most significant byte of SEED is used as the intermediate RVPM. Although other portions of SEED could be used as the intermediate RVPM, the most significant byte varies in a more random manner than any other byte, so it is preferred)(Col. 4, lines 12-67 and Col. 5, lines 1-16).

Regarding claims 11, 21, 33, and 44, Hosford discloses wherein said bit-size operation uses a negation operator, such that every 1 bit becomes a 0 bit and every 0 bit becomes a 1 bit (i.e., combining the variable mask with the frame of data using an exclusive OR operation)(Col. 1, lines 60-67 and Col. 2, lines 1-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 18, 30, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosford et al., (U.S. Patent No. 5,966,450 and Hosford hereinafter), in view of Pickett, (U.S. Publication No. 2002/0001302 and Pickett hereinafter).

Regarding claims 8, 18, 30, and 41, Hosford does not expressly disclose wherein said re-sequenced multi-media data flow packets are transmitted within a predetermined jitter buffer size.

However, Pickett discloses wherein said re-sequenced multi-media data flow packets are transmitted within a calculated jitter buffer size (Pages 39-40, Par. 0376-0380).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the encryption method of Hosford by including wherein said re-sequenced multi-media data flow packets are transmitted within a calculated jitter buffer size as disclosed by Pickett. This modification would have been obvious because one of ordinary skill in the art would have been motivated by the suggestion of Pickett to provide for a method to minimize the size and delay of

the jitter buffer while preventing buffer underflow caused by jitter (Pickett, Page 39, Par. 0376).

Allowable Subject Matter

Claims 5-6, 15-16, 27-28, and 38-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arezoo Sherkat whose telephone number is (571) 272-3796. The examiner can normally be reached on 8:00-4:30 Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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